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Abruptio Placenta: A Retrospective Study on Risk Factors, Maternal and Fetal Outcome

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***Abstract*---**Background: Abruptio placenta is defined as preterm separation of normally implanted placenta and causes high maternal and neonatal morbidity and mortality. The present study was done to determine the risk factors for abruption planceta and to evaluate its impact on perinatal and maternal outcomes. Materials & Methods: This retrospective study was carried on 135 cases of Abruptio placenta between January 2019 and September 2020 at Govt. Medical College & Hospital, Nizamabad after obtaining ethical clearance from the institution. In all cases risk factors, maternal and fetal outcome were recorded. The results of studies were recorded in percentage and frequencies and analyzed by SPSS-16 software. Results: The total number of deliveries from January 2019 and September 2020 at Govt. Medical College & Hospital, Nizamabad were 13600, out of which 135 cases were found to be Abruption. The Incidence of Abruptio placenta was 1%. It was most common in the women of age group 25-30 yrs. We found 25% of patients were associated with severe preeclampsia & eclampsia, 23% patients with chronic hypertension and 33.42% patients with normotensive. DIC occurred in 25% of cases & PPH accounts for 28% of the maternal complications. There were 38 perinatal deaths

***Keywords*---**abruptio placenta, antepartum haemorrhage, eclampsia, morbidity, mortality.

Introduction

Abruptio placenta is a separation of the normally situated placenta after the 20th week of gestation and prior to birth [1-3]. It accounts for about 30% of third

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trimester bleeding. It is one of the major causes of obstetric haemorrhage, which is the most common cause of maternal morbidity and mortality [4] . It is also a significant cause of perinatal loss [5]. Cause of Abruptio Placenta includes impaired placentation, placental insufficiency, hypertensive disorders of pregnancy, advanced maternal age, and grand multiparity [6]. The frequent presentations of Abruptio placenta include vaginal bleeding, uterine and abdominal pain and tenderness, abnormal uterine contractions, preterm labour, maternal hemodynamic instability, fetal distress, and fetal death [7-9]. This retrospective study was done to determine the incidence and risk factors of Abruptio Placenta and its consequences on maternal and fetal outcomes.

Materials and Methods

This retrospective study was conducted at Govt. Medical College & Hospital, Nizamabad, India from January 2019 to September 2020. Ethical clearance was obtained from the institutional ethical committee. All pregnant women who were diagnosed with Abruptio placenta after 28 weeks of gestation were included in the study. Abruptio Placenta (AP) was diagnosed based on clinical signs and symptoms of vaginal bleeding, tense and tender abdomen, hypertonic uterus, and confirmed at delivery by the local examination of placenta for separation and presence of a retroplacental hematoma. Total number of deliveries during the study period were 13600 and Abruptio placenta counted to 135 cases

Inclusion criteria

Pregnant mothers who were diagnosed with Abruptio Placentae.

Exclusion criteria

All other causes of APH like placenta praevia and other extraplacental causes.

From case sheets, details of the patient like age, parity, and maternal high-risk factors were collected. All study patients underwent a complete obstetrical examination and clinical workup including history, general physical examination, and abdominal and pelvic examination. Patients were managed according to maternal and fetal condition and complications were documented. The results of studies were recorded in percentage and frequencies. Data were analyzed in SPSS 16 software.

Results

The total number of deliveries in our study period were 13600 and abruption placenta counted to 135 cases. An incidence of abruption placenta with 1% was observed.

Table 1
Incidence of abruptio placenta

	N=13600
Total number of deliveries	13600

Total number of abruption placenta cases	135
Incidence	1%

According to the age criteria, peak incidence of abruption occurred in the 25-30 years age group. Table 2

Table 2
Age wise distribution of abruptio placenta cases

Age in Years	N=135	Percentage
<25	44	33
25-30	65	48
31-35	22	16
>35	4	3

Increased incidence of abruptio placenta occurred in 2nd to 4th gravida of about 55% followed by primigravida 30%.Table 3

Table 3
Parity wise distribution

Parity Index	N=135	Percentagee
Primi	41	30
Multi para(2-4)	74	55
Grand Multi para	20	15

severe preeclampsia, Chronic hypertension & Previous caesarean section were the prime factors in the aetiology in our study. Table 4

Table 4
Maternal risk factors

Risk Factors	N=135	Percentage
Severe preeclampsia andeclampsia	34	25
Chronic hypertension	31	23
Previous caesarean section	20	15
Increased maternal age	12	9
Recurrent abruption	11	8
hypothyroidism	8	6
polyhydromnios	7	5
Multiparity	7	5
trauma	4	3
Anaemia	1	1

Most cases had vaginal bleeding
Most cases in our study had vaginal bleeding. Table 5

Table 5
Clinical features

Clinical Features	N=135	percentage
Vaginal bleeding	70	52
Abdominal pain	65	48

In this study, Maternal complications associated with abruption were disseminated intravascular coagulation (dic) (28%), postpartum haemorrhage (pph) (25%), hypovolaemic shock (20%), acute renal failure (arf) (12%), infections (10%) and 5% suffered from other complication. Table 6

Table 6
Maternal complications

Maternal Complications	N=135	Percentage
Disseminated intravascularcoagulation	38	28
Postpartum haemorrhage	34	25
Hypovolaemic shock	27	20
Acute renal failure	16	12
Infections	13	10
Others	7	5

In this study perinatal outcome associated with Abruptio Placenta were stillbirth 28%, Term baby (25%). Preterm baby (23%), Neonatal death (15%), NICU admissions (6%) and Extreme preterm baby (3%). Table 7

Table 7
Perinatal outcome

Parameters	N=135	Percentage
Intrauterine death/stillbirth	38	28
Term baby	34	25
Preterm baby	31	23
Neonatal death	20	15
NICU admissions	8	6
Extreme preterm baby	4	3

Discussion

The incidence of Abruptio Placenta in our study was 1% which is correlating with the findings from other studies. Ananth CV [2] reported that incidence as 0.5 to 1% in Asian and American countries. In the present study, the incidence of Abruptio placentae is higher in the age group of 25-30 years that were 48% and multiparity. The study by Sarwar et al [10] also had 49% of their population with parity between 1 and 4.

In our study Increased incidence of abruption placenta was associated with increased incidence of preeclampsia and chronic hypertension which correlates with the study of Sibai et al. [11]. In our study Increased incidence of abruption

placenta was associated with a previous cesarean section which correlates with the study of Sumangala Dev [12].

Among the maternal complications, disseminated intravascular coagulation (DIC) was commonest followed by postpartum hemorrhage (PPH). In our study, PPH occurred in 25% of patients whereas Talpur NN [13] reported PPH in 28% of patients. In our study DIC occurred in 28% of the patients whereas Sher G observed DIC in 10-20% of the patients[14]. In our study shock was reported in 10% of the patients whereas a study from Shrivastava V reported 24.6% shock cases [15]. In our study, Infection was found to be in 17.5% of patients whereas Choudhary V, reported infection in 10% of the patients [16]. The major causes of fetal morbidity were prematurity, fetal growth restriction, respiratory stress syndrome, anemia, and hyperbilirubinemia [17]. In our study, 72% were born alive and 28% were stillbirths. Whereas Subha Sivagami et al. [18] in their study reported 30.2% as stillbirths.

Conclusion

This study concludes that preeclampsia, eclampsia & Chronic hypertension were the risk factors for Abruptio plaenta which is compromising fetal viability, maternal health and well-being. So early identification and proper management will reduce maternal and foetal morbidity and mortality.

Future prospective

Increased public awareness of the necessity of prenatal care for pregnant women and improvements in nutritional status may help to lower the incidence of AP and hence maternal and foetal morbidity and mortality. Healthcare providers' services can be used to identify women at risk, detect them early, and refer them to the best medical care possible. Obstetricians, intensivists, blood banks, and neonatologists must work together to improve maternal and foetal outcomes.

Limitation of the study

Because this is a retrospective observational study, there is a chance of recall bias because the data was acquired from medical records. Because the data comes from a single hospital, the results drawn may not apply to the full Nizamabad community. Because there is no comparison to a control group, statistical significance for the risk factors cannot be determined.

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